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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Suite 322
315 South Allen Street
State College, Pennsylvania 16801

May 23, 1997

Mr. Christopher Corbett (3HW22)
U.S. Environmental Protection Agency
841 Chestnut Building
Philadelphia, Pennsylvania 19107

Dear Chris:

Enclosed is a copy of our "Guidelines for bog turtle surveys." I discovered in our files that we originally sent this to Gannett Fleming in 1996 (see enclosed letter). Since our 1996 letter to Gannett Fleming, the classification of the bog turtle has changed from "federal candidate species" to "proposed threatened."

Please give me a call if you have any questions.

Sincerely,

Cindy L. Tibbott
Environmental Contaminants Specialist

Enclosures

GUIDELINES FOR BOG TURTLE SURVEYS

(revised December 11, 1995)

STEP 1 - Contact the U.S. Fish and Wildlife Service (USFWS), Pennsylvania Fish and Boat Commission (PFBC), or Pennsylvania Natural Diversity Inventory (PNDI) to find out if the wetland is known to support bog turtles (wetlands in Adams, Berks, Bucks, Chester, Cumberland, Franklin, Lancaster, Lebanon, Lehigh, Monroe, Montgomery, Northampton and York Counties). If the wetland is known to support bog turtles, measures must be taken to avoid impacts to the species. The PFBC and USFWS will work with federal, state and local regulatory agencies, permit applicants and project proponents to ensure that bog turtles will not be adversely affected.

STEP 2 - If it is <u>not</u> a known bog turtle wetland but has an emergent and/or scrub-shrub wetland component, then conduct a survey to determine if the wetland is <u>potential</u> bog turtle habitat.

Conditions (Note: these apply only to determine if it is <u>potential</u> habitat):

1. Surveys can be performed any month of the year.

2. Potential bog turtle habitat is recognized by three criteria:

   a) suitable hydrology - typically spring-fed with shallow surface water or saturated soils present year-round, although in summer the wet area(s) may be restricted to near spring head(s). Typically these wetlands are interspersed with dry and wet pockets. There is often subsurface flow.

   b) suitable soils - a bottom substrate of soft muck. You will usually sink to your ankles or deeper in muck, although in summers of dry years this may be limited to near spring head(s). This is the critical criterion.

   c) suitable vegetation - dominant vegetation of low grasses and sedges (emergent wetland), often with a scrub-shrub wetland component. Common emergent vegetation includes: tussock sedge (*Carex stricta*), soft rush (*Juncus effusus*), rice cut grass (*Leersia oryzoides*), sensitive fern (*Onoclea sensibilis*), tearthumbs (*Polygonum spp.*), jewelweeds (*Impatiens spp.*), arrowheads (*Saggittaria spp.*), skunk cabbage (*Symplocarpus foetidus*), Panic grasses (*Panicum spp.*), other sedges (*Carex spp.*), and in disturbed sites, reed canary grass (*Phalaris arundinacea*). Common scrub-shrub species include alder (*Alnus spp.*), red maple (*Acer rubrum*), and in disturbed sites, multiflora rose (*Rosa multiflora*).

3. The USFWS and the PFBC should be sent a copy of survey results including: a USGS topographic map indicating location of site; project design map, including location of wetlands and streams; color photographs of the site; surveyor's name; date of visit; opinion on

potential/not potential habitat; a description of the hydrology, soils, and vegetation.

STEP 3 - If the wetland is identified as potential bog turtle habitat (see STEP 2), then either (1) completely avoid all direct and indirect project impacts to the wetland, or (2) conduct a survey to determine the presence of bog turtles. Note--this is <u>not</u> a survey to estimate population size; a long-term mark/recapture study would be required for that.

Conditions:

1. Surveys should only be performed during the period from April 15-June 30. This coincides with the period of greatest annual turtle activity (spring emergence and breeding) and before vegetation gets too dense to accurately survey. While turtles may be found outside of these dates, a result of <u>no</u> turtles would be considered inconclusive. Surveys beyond June also have a higher likelihood of disruption/destruction of nests or newly hatched young.

2. Water temperatures should be a minimum of 55° F. Air temperatures should be a minimum of 60° F.

3. Three people should survey each wetland together. At least one of these should be a USFWS/PFBC-recognized qualified bog turtle surveyor, who will instruct the other surveyors in survey technique. To maintain survey effort consistency and increase the probability of encountering turtles, the same survey team should be used per wetland.

   A scientific collector's permit valid for the location and period of the survey must be obtained from the Pennsylvania Fish and Boat Commission by at least one of the surveyors prior to conducting the survey.

4. From mid-April to mid-May, a minimum of three surveys per wetland site, separated by six or more days, are needed to accurately assess the site for presence of bog turtles. From mid-May to June, a minimum of three surveys per wetland site, separated by only 3 or more days, are needed. The shorter period between surveys during the latter half of June is needed to ensure that surveys are carried out during the optimum window of time (i.e., before wetland vegetation becomes too thick).

   Note that bog turtles are more likely to be encountered by spreading the surveys out over a longer period. For example, erroneous survey results could be obtained if surveys were conducted on three successive days in late April due to possible late spring emergence, or during periods of extreme weather because turtles may be buried in mud and difficult to find. If turtles are found on the first or second visit, the site does not need to be revisited.

5. Survey time should be a minimum of two hours (6 person-hours) per acre of wetland per site visit unless a bog turtle is found before this time has elapsed. Both random opportunistic searching and transect surveys should be used at each wetland.

6. The USFWS and PFBC should be sent a copy of survey results, including the following: a site map; a description of the wetlands within the project area (e.g., acreage, vegetative characterization, hydrological characterization); an explanation of which wetlands were or were not surveyed, and why; and survey methodology. For each site visit, the report should include: date, time spent surveying, surveyors' names, weather (air and water temperatures, percent cloud cover, wind, precipitation), presence or absence of bog turtles, number of bog turtles found, age/sex of turtles found, and other reptile and amphibian species found.

RECOGNIZED QUALIFIED BOG TURTLE SURVEYORS*

Jack Cover
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(H) 410-877-7239
(W) 410-576-3835 (National Aquarium)

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(H) 410-343-1541
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Jim McGibney
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Joe McSharry
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*This list includes professional and amateur herpetologists the U.S. Fish and Wildlife Service and the Pennsylvania Fish and Boat Commission recognize as qualified to identify bog turtle habitat and survey for the presence of bog turtles. This list may not include all individuals qualified to survey for this species. Inclusion of names on this list does not constitute endorsement by the Service or any other U.S. Government agency or State agency.